



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/788,774	02/27/2004	Samuel L. Thomasson	10205.044	6127

7590 08/25/2005
Paul F. Wille
6407 East Clinton St.
Scottsdale, AZ 85254

EXAMINER

BRINEY III, WALTER F

ART UNIT	PAPER NUMBER
----------	--------------

2646

DATE MAILED: 08/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/788,774

Applicant(s)

THOMASSON, SAMUEL L.

Examiner

Walter F. Briney III

Art Unit

2646

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2/27/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the band reject filter of claims 5 and 6 must be shown or the feature(s) canceled from the claim(s). In particular, the low pass and high pass filters comprising the band reject filter. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. **Claims 1, 3, 7 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Rizq et al. (US Patent 6,154,537).**

Claim 1 is limited to *a telephone characterized by a voice activity detector*. Rizq discloses a method and apparatus for reducing false ringback detection. See Abstract. In general, Rizq provides circuitry equipped to decipher the difference between ringback signals and voice within a telephone as seen in figure 1. In this way, Rizq also relates to a telephone characterized by a voice activity detector as recited. Figure 2 provides a detailed signal flow for a decoded audio stream (200). In particular, a bandpass filter (202) and an inverse bandstop filter (210) respectively pass and block ringback within the audio stream. The outputs of the filters are compared by logical AND gate (216). Therefore, Rizq anticipates all limitations of the claim.

Claim 3 is limited to *the telephone as set forth in claim 1*, as covered by Rizq. The two filters are illustrated within figure 2 as containing inverted frequency responses across the ringback band (206). In this way, both have equivalent center frequencies. Therefore, Rizq anticipates all limitations of the claim.

Claim 7 is limited to *a method for detecting voice in a telephone having a predetermined voice band*. Rizq discloses a method and apparatus for reducing false

ringback detection. See Abstract. In general, Rizq provides circuitry equipped to decipher the difference between ringback signals and voice within a telephone as seen in figure 1. In this way, Rizq also relates to a method for detecting voice in a telephone having a predetermined voice band. Figure 2 provides a detailed signal flow for a decoded audio stream (200). In particular, a bandpass filter (202) and an inverse bandstop filter (210) respectively pass and block ringback within the audio stream. The magnitude of the outputs of the filters are compared by logical AND gate (216). As seen in figure 2, different ratios of the filter outputs result in different outputs (218), (220) and (222). The ringback band (206) is assumed to correspond with the voice band as claimed, since at least voice is known to exist therein. Therefore, Rizq anticipates all limitations of the claim.

Claim 8 is limited to *the method as set forth in claim 7*, as covered by Rizq. As the ratio between the filters adjusts depending on the inputs to the filters, an output favoring the indication of voice (220) is generated. Therefore, Rizq anticipates all limitations of the claim.

2. **Claims 1, 4, 7 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by David (US Patent 4,433,435).**

Claim 1 is limited to *a telephone characterized by a voice activity detector*. David discloses an arrangement for reducing the noise in a speech signal mixed with noise. See Abstract. The circuit of figure 1 eliminates noise by generating a threshold at which voice is considered present (V_d) and comparing the input signal, as filtered by a band pas filter (3), to that threshold in circuit (9). A band stop filter (i.e. band reject

filter) generates the threshold. The threshold circuit (9) corresponds to a comparator. Therefore, David anticipates all limitations of the claim.

Claim 4 is limited to *the telephone as set forth in claim 1*. David discloses that the band stop filter (6) accepts more frequencies than the band pass filter (3) rejects, thus the band stop filter has a wider frequency response. See column 2, lines 31-33, and column 2, line 61, through column 3, line 9. Therefore, David anticipates all limitations of the claim.

Claim 7 is limited to *a method for detecting voice in a telephone having a predetermined voice band*. David discloses an arrangement for reducing the noise in a speech signal mixed with noise. See Abstract. The circuit of figure 1 eliminates noise by generating a threshold at which voice is considered present (V_d) and comparing the input signal, as filtered by a band pass filter (3), to that threshold in circuit (9). A band stop filter (i.e. band reject filter) generates the threshold. The threshold circuit (9) performs a comparing. Because the band pass filter (3) eliminates all frequencies outside of the POTS voice band while the band stop filter (6) retains these frequencies, comparing them corresponds to a comparison between a first signal within the voice band with a second signal outside the voice band. See column 2, lines 21-33, and column 2, line 61, through column 3, line 9. When signal V_e (i.e. first signal) is less than signal V_d (i.e. second signal), V_s is zero (i.e. a first output). When signal V_e is greater than signal V_d , V_s is non-zero (i.e. a second output) and tracks the input voice signal V_e . See column 3, line 61, through column 4, line 8. Therefore, David anticipates all limitations of the claim.

Claim 8 is limited to *the method as set forth in claim 7*, as covered by David. As the ratio between the filters adjusts depending on the inputs to the filters, an output favoring the indication of voice is generated as seen in the trace of signal Vs in figure 3. Therefore, David anticipates all limitations of the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rizq et al. (US Patent 6,154,537) in view of Sullivan et al. (US patent 5,729,602).**

Claim 2 is limited to *the telephone as set forth in claim 1*, as covered by Rizq. It is noted that Rizq simply fails to disclose the structure of each filter (202) and (210). Therefore, Rizq anticipates all limitations of the claim with the exception of a band reject filter comprising a second band pass filter...and an amplifier.

One prior art band reject filter implementation is depicted in figure 2 of Sullivan. Therein, a band pass filter (23) receives an input signal. The input signal is also provided to a non-inverting input of an amplifier (26) while the output of the band pass filter (23) is passed to the inverting input of the amplifier. The result is a band reject filter with complimentary symmetry to the band pass filter. It would have been obvious to one of ordinary skill in the art at the time of the invention to implement a band reject

filter with the signal flow as taught by Sullivan simply because Rizq provides no alternative solution and because the structure of Sullivan allows perfect complimentary symmetry with the bandpass filter (202).

4. **Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rizq et al. (US Patent 6,154,537) in view of Kuphaldt (<http://www.faqs.org/docs/electric/AC/index.html>, Revised March 8, 2003).**

Claim 5 is limited to *the telephone as set forth in claim 1*, as covered by Rizq. It is noted that Rizq simply fails to disclose the structure of each filter (202) and (210). Therefore, Rizq anticipates all limitations of the claim with the exception of a band reject filter comprising a second band pass filter...and an amplifier.

One prior art band reject filter implementation is depicted in the first figure of the band-stop filter section of chapter 8 of Kuphaldt. Therein, a signal input is divided into two parallel filter paths. The first path includes a low pass filter and the second path includes a high pass filter. In this way, the cutoff frequency of the high pass filter is above the center frequency of the band reject filter while the cutoff frequency of the low pass filter are below the center frequency of the band reject filter. Because the band pass (202) and band reject filter (210) disclosed by Rizq have the same center frequency, the cutoff of the low pass filter would be lower than the center frequency of the band pass filter (202). It would have been obvious to one of ordinary skill in the art at the time of the invention to implement a band reject filter using a parallel low pass and high pass filter as taught by Kuphaldt simply because Rizq provides no alternative solution.

Claim 6 is limited to *the telephone as set forth in claim 5*, as covered by Rizq in view of Kuphaldt. Because the band pass (202) and band reject filter (210) disclosed by Rizq have the same center frequency, the cutoff of the high pass filter would be higher than the center frequency of the band pass filter (202). Therefore, Rizq in view of Kuphaldt makes obvious all limitations of the claim.

5. **Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over David (US Patent 4,433,435).

Claim 2 is limited to *the telephone as set forth in claim 1*, as covered by David. It is noted that David simply fails to disclose the structure of each filter (3) and (6). Therefore, David anticipates all limitations of the claim with the exception of a band reject filter comprising a second band pass filter...and an amplifier.

One prior art band reject filter implementation is depicted in figure 2 of Sullivan. Therein, a band pass filter (23) receives an input signal. The input signal is also provided to a non-inverting input of an amplifier (26) while the output of the band pass filter (23) is passed to the inverting input of the amplifier. The result is a band reject filter with complimentary symmetry to the band pass filter. It would have been obvious to one of ordinary skill in the art at the time of the invention to implement a band reject filter with the signal flow as taught by Sullivan simply because David provides no alternative solution.

Conclusion


Art Unit: 2646

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter F. Briney III whose telephone number is 571-272-7513. The examiner can normally be reached on M-F 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WFB
8/19/05


SUHAN M
PRIMARY EXAMINER